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Serum estradiol associate oxidative stress: A major cause of breast cancer

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Estrogen is hormone produced by a woman's ovaries, help to prepare the body for ovulation and in the development of secondary sex characteristics. It is a chemical messenger that is important for normal growth and development of a woman's breasts, uterus and ovaries. It is also important for childbearing and regulation of woman's menstrual cycles. The naturally occurring estrogens 17 *b* -estradiol(E 2), estrone (E 1), and estriol (E3) are C 18 steroids derived from cholesterol. Estrone and estriol are primarily formed in the liver from estradiol. The role of estrogen receptors in the development of estrogen-dependent human breast cancer is well known but the role of serum estrogen in breast cancer is less explored so the this study is planed find out role of serum estradiol associated oxidative stress in breast cancer. Total 200 subjects were selected for the study and the results were compared with the control. Serum estrogen and oxidative stress parameters such as Reduced glutathione (GSH) in conjunction with glutathione peroxidase (GPx) and glutathione S-transferase (GST) and lipid peroxidation were analysed in both the groups.

The results of study indicates that the higher level of serum estrogen and its metabolism plays important in development of oxidative stress which ultimately may leads to breast cancer. The study may be helpful for the establishment of serum estrogen as breast cancer marker.